IAP15 Rec'd PCT/PTO 2 0 JUL 2006

PTO-1390 (Rev. 07-2005)

Approved for use through 3/31/2007. OMB 0651-0021

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| TR | ANSMITTAL LETTER TO | THE UNITED STATES | ATTORNEY'S DOCKET NUMBER | | | | | |
|------------|--|---|--|--|--|--|--|--|
| ı | DESIGNATED/ELECTED | OFFICE (DO/EO/US) | 96700/1160 | | | | | |
| | ICERNING A SUBMISSIC | | U.S. 19FDCA 19PN 199. AT 18W9 \$2 37 CFR 1.5) | | | | | |
| | TIONAL APPLICATION NO. 32005/007365 | 7 March 2005 (07.03.2005) | PRIORITY DATE CLAIMED 11 March 2004 (11.03.2004) | | | | | |
| TITLE OF | OF INVENTION ENHANCED PRODUCTION OF FUNCTIONAL PROTEINS FROM DEFECTIVE GENES | | | | | | | |
| | | . Lawrence and Biao Xi | | | | | | |
| Applicant | therewith submits to the United Sta | ates Designated/Elected Office (DO/EC | O/US) the following items and other information: | | | | | |
| 1. | This is a FIRST submission of items co | oncerning a submission under 35 U.S.C. 371 | | | | | | |
| 2. | This is a SECOND or SUBSEQUENT s | submission of items concerning a submission | n under 35 U.S.C. 371. | | | | | |
| 3 | This is an express request to begin nati (5), (6), (9) and (21) indicated below. | ional examination procedures (35 U.S.C. 37 | 1(f)). The submission must include items | | | | | |
| | The US has been elected (Article 31). | | | | | | | |
| 5. | A copy of the International Application | | | | | | | |
| | a. is attached hereto (required | d only if not communicated by the Internation | al Bureau). | | | | | |
| *1 | b. has been communicated by | | | | | | | |
| | , , , | cation was filed in the United States Received | | | | | | |
| 6. 🗀 | | e International Application as filed (35 U.S.C | 5. 3/1(c)(2)). | | | | | |
| | a. is attached hereto. | ************************************** | | | | | | |
| 7 V | b. As been previously submitted under 35 U.S.C. 154(d)(4). | | | | | | | |
| 7. | Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) | | | | | | | |
| | a. are attached hereto (required only if not communicated by the International Bureau). b. have been communicated by the International Bureau. | | | | | | | |
| • | c. have not been made; however, the time limit for making such amendments has NOT expired. | | | | | | | |
| | d. have not been made and will not be made. | | | | | | | |
| 8. | An English language translation of the | ne amendments to the claims under PCT Art | icle 19 (35 U.S.C. 371(c)(3)). | | | | | |
| 9. | An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). | | | | | | | |
| 10. | An English language translation of th Article 36 (35 U.S.C. 371(c)(5)). | e annexes of the International Preliminary E | xamination Report under PCT | | | | | |
| Items | 11 to 20 below concern document(s | s) or information included: | | | | | | |
| 11. 🗹 | An Information Disclosure Statement | under 37 CFR 1.97 and 1.98. | | | | | | |
| 12. 🔲 | An assignment document for recording | ng. A separate cover sheet in compliance wi | th 37 CFR 3.28 and 3.31 is included. | | | | | |
| 13. | A preliminary amendment. | | | | | | | |
| 14. | An Application Data Sheet under 37 | CFR 1.76. | | | | | | |
| 15. 📙 | A substitute specification. | | | | | | | |
| 16. | A power of attorney and/or change of | | | | | | | |
| 17. | A computer-readable form of the seq | uence listing in accordance with PCT Rule 1 | 3ter.2 and 37 CFR 1.821- 1.825. | | | | | |
| 18. | | national Application under 35 U.S.C. 154(d) | | | | | | |
| 19. 🔲 | A second copy of the English language | ge translatión of the international application | under 35 U.S.C. 154(d)(4). | | | | | |

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. Page 1 of 3

AP20 Rec'd PCT/PTO 20 JUL 2006

PTO-1390 (Rev. 07-2005)
Approved for use through 3/31/2007. OMB 0651-0021
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| U.S. APPLICA | 17586 | 8°92 ^{R 1.5)} | | | 96700/1160 | KET NUMBER | | | |
|---|--|--|---------------------------------------|------------------------|------------------------|----------------|--|--|--|
| 20. Other | 20. Other items or information: Copy of the International Search Report and Written Opinion. | | | | | | | | |
| | | | · · · · · · · · · · · · · · · · · · · | | | DT0 1105 01111 | | | |
| L | • | | | £200 | \$ 000.00 | PTO USE ONLY | | | |
| | | | | \$300 | 300.00 | | | | |
| 22. 🗹 Exam | nination fee (37 CF | FR 1.492(c)) | | | | | | | |
| The following fees have been submitted 21. | | \$0 | \$ 200.00 | | | | | | |
| If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) | | | | | \$ 100.00 | | | | |
| <u> </u> | TOTAL OF 21 22 | 2 and 23 = | | | \$ 600.00 | | | | |
| Additional fe sequence electronic | e for specification e listing in complia c medium) (37 CF | and drawings file nce with 37 CFR R 1.492(j)). | 1.821(c) or (e) or computer pr | | | | | | |
| Total Sheets | Extra Sheets | ł | | RATE | | : | | | |
| - 100 = | /50 = | | - | x \$250 | \$ | · | | | |
| | | | | oath or declaration | \$ | | | | |
| - CLAIMS | NUMB | ER FILED | NUMBER EXTRA | RATE | \$ | | | | |
| Total claims | | - 20 = | | x \$50 | \$ 900.00 | | | | |
| Independent clair | ms | - 3 = | | x \$200 | \$ ₀ | | | | |
| MULTIPLE DEPE | NDENT CLAIM(S | (if applicable) | | + \$360 | \$ | | | | |
| | | | | | \$1500.00 | | | | |
| Applicant cla | ims small entity st | atus. See 37 CFF | R 1.27. Fees above are reduc | ed by 1/2. | | | | | |
| | | | | SUBTOTAL = | \$ 750.00 | <u> </u> | | | |
| Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest | | | | | \$ | | | | |
| | | | TOTAL | NATIONAL FEE = | \$ 750.00 | | | | |
| | | | | st be accompanied + | \$ | | | | |
| | | | TOTAL F | EES ENCLOSED = | \$ 750.00 | | | | |
| | | | | | Amount to be refunded: | \$ | | | |
| | | | | | Amount to be charged | \$ | | | |

10/586892

PTO-1390 (Rev. 07-2005)
Approved for use through 3/31/2007. OMB 0651-0021
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| One of the report of the report of the person | ons are required to respond to | a collection of information unless it displays a valid OMB control number | | | | | | | |
|--|---|---|-----|--|--|--|--|--|--|
| a. A check in the amount of \$ 750.00 | to cover the above t | AP20 Rec'd PST/PTO 20 JUL | 200 | | | | | | |
| b. Please charge my Deposit Account No A duplicate copy of this sheet is enclosed. | in the amount of \$ | to cover the above fees. | | | | | | | |
| | The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 01-1785 . A duplicate copy of this sheet is enclosed. | | | | | | | | |
| | Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. | | | | | | | | |
| NOTE: Where an appropriate time limit under 37 CFR 1 and granted to restore the International Application to p | | petition to revive (37 CFR 1.137(a) or (b)) must be filed | | | | | | | |
| SEND ALL CORRESPONDENCE TO: Alan D. Miller Amster, Rothstein & Ebenstein LLP 90 Park Avenue New York, New York 10016 (212) 336-8000 • | | SIGNATURE Alan D. Miller NAME 42,889 REGISTRATION NUMBER | | | | | | | |



AMSTER ROTHSTEIN &EBENSTEIN LLP

Intellectual Property Law

90 Park Avenue New York NY 10016

Main 212 336 8000 Fax 212 336 8001 Web www.arelaw.com Pattners
Morton Amster
Jesse Rothstein (1934 - 2003)
Daniel Ebenstein
Philip H. Gottfried
Michael J. Berger
Neil M. Zipkin
Anthony F. Lo Cicero
Kenneth P. George
Abraham Kasdan, Ph.D.
Ira E. Silfin
Chester Rothstein
Craig J. Arnold
Kenneth M. Bernstein

Joseph M. Casino

Senior Counsel
Charles AP2 PC AN
Michael Counsel

Karl J. Kolbinger

Elie H. Gendloff, Ph.D. David Mimick Charles W Rath Associates David A. Boag Patrick Boland* John S. Economou Matthieu Hausig Holly Pekowsky Jung S. Hahm Michael P. Kenney Reiko Kaji Marion P. Metelski Alan D. Miller, Ph.D. Max Vern John A. Lepore

Norajean McCaffrey

Matthew A. Fox
Nijtael J. 1946
Rebecca R. Eisenberg
Stuart Shapley
Howard Wizenfeld

*Not admitted in New York

July 20, 2006

Via Express Mail (EL 993158048 US)

Mail Stop PCT Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Alan D. Miller Direct 212 336 8094 E-mail amiller@arelaw.com

"Express Mail" mailing label no. EL 993158048 US

Date of Deposit: July 20, 2006

I hereby certify that this paper or fee is being deposited with the United States Postal Service
"Express Mail" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Name: Alan D Mikel
Signature:

Re: United States National Stage Filing

of PCT Application No. PCT/US2005/007365

Title: ENHANCED PRODUCTION OF FUNCTIONAL

PROTEINS FROM DEFECTIVE GENES Applicants: David S. Lawrence and Biao Xi

Our File: 96700/1160

Dear Sir:

Pursuant to 35 U.S.C. § 371 and 37 C.F.R. § 1.495, enclosed please find an application for patent in the names of David S. Lawrence and Biao Xi, entitled "ENHANCED PRODUCTION OF FUNCTIONAL PROTEINS FROM DEFECTIVE GENES," for entering the national stage in the United States of America, comprising the following:

- 1. a Transmittal Letter to the United States Designated/Elected Office (DO/EO/US) Concerning a Filing Under 35 U.S.C. § 371 (3 pages);
- 2. a copy of PCT Application No. PCT/US2005/007365 as published under PCT Publication No. WO 2005/086768 A2, including cover page (1 sheet), specification (18 pages), claims (5 pages), figures (2 pages) and sequence listing (2 pages); sequence listing on floppy disk;
- 3. a copy of the International Search Report and Written Opinion (10 pages);
- 4. a Preliminary Amendment (3 pages);

10/586892

AP20 Rec'd PCT/PTO 20 JUL 2006

Commissioner for Patents

-2-

July 20, 2006

- 5. an Information Disclosure Statement Forms PTO/SB/08A and PTO/SB/08B, and copies of the three non-US patent documents listed therein;
- 6. a check in the amount of \$750.00 to cover the filing fee; and
- 7. a return receipt postcard.

Please charge any outstanding amount or credit any overpayment to Deposit Account No. 01-1785. A duplicate copy of this letter is enclosed. Please also acknowledge receipt of the enclosed documents by stamping the enclosed postcard and returning the same to us.

Respectfully submitted,

AMSTER, ROTHSTEIN & EBENSTEIN LLP Attorneys for Applicants 90 Park Avenue New York, New York 10016

(212)(\$36-8000

Dated: New York, New York

July 20, 2006

By: Alan D. Miller

Registration No. 42,889